(No Model.)

B. F. PURVIANCE & C. HILLS.

AUTOMATIC SWITCH.

No. 342,760. Patented May 25, 1886.

Fig. 1.

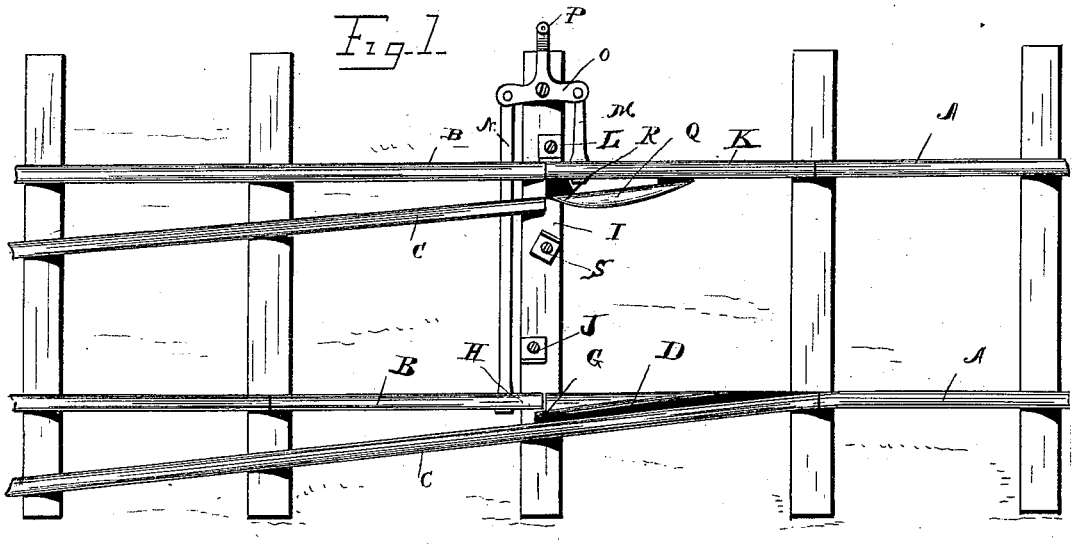


Fig. 2.

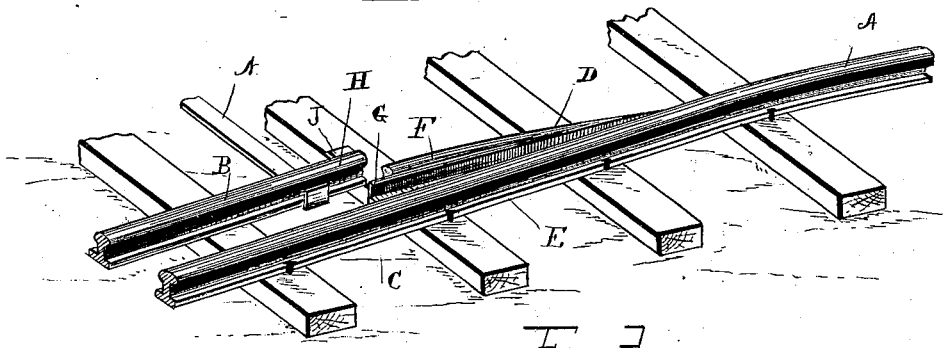
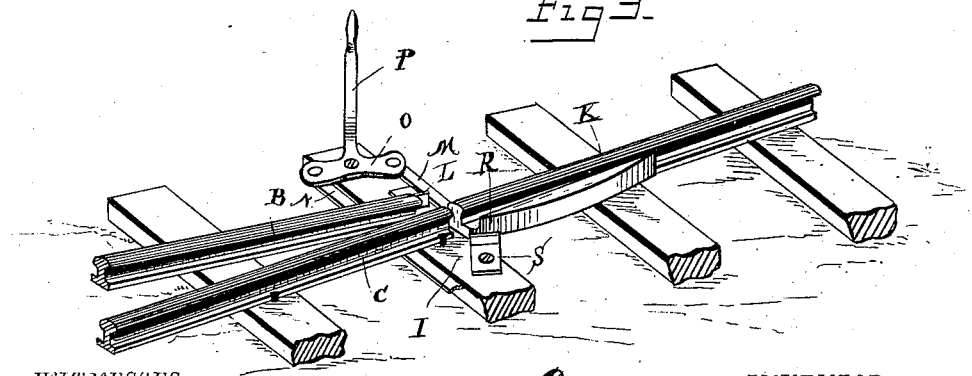


Fig. 3.



WITNESSES

F. L. Ourand.

Edward Stanton

INVENTOR

Benjamin F. Purviance,

Christian Hills.

By Louis Bagger & Co

Attorney

UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN PURVIANCE AND CHRISTIAN HILLS, OF KEOKUK, IOWA.

AUTOMATIC SWITCH.

SPECIFICATION forming part of Letters Patent No. 342,760, dated May 25, 1886.

Application filed March 31, 1886. Serial No. 197,253. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN FRANKLIN PURVIANCE and CHRISTIAN HILLS, both residents of Keokuk, in the county of Lee and State of Iowa, have invented certain new and useful Improvements in Automatic Switches; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan view of a portion of a railway-track provided with our improved automatic switch. Fig. 2 is a perspective detail view of the rigid frog-rail, and Fig. 3 is a similar view of the switch-rail having the frog.

Similar letters of reference indicate corresponding parts in all the figures.

Our invention has relation to that class of railway-switches in which the rails of the main track are formed with pivoted switch-rail portions, which are pivoted at opposite ends at opposite sides of the track and with their free ends pointing in opposite directions and sliding at registering points of the track, and in which the ends of the said switch-rails are provided with laterally-projecting switch-rods, which are pivoted at their ends to the ends of a lever pivoted at the side of the track, so that they will be simultaneously slid in opposite directions, and it contemplates certain new and useful improvements upon the railway-switch for which Letters Patent No. 322,395 were granted to us on the 14th day of July, 1885; and it consists to that end in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letters A A indicate the rails of the single track; B B are the rails of the main track of the switch, and C C are the rails of the siding.

The outer rail of the siding and the corresponding rail of the main track meet in a frog, D, consisting of an entire rail portion, E, which forms a portion of the rail of the siding, and a pointed rail portion, F, the inner edge of which forms a continuation of the single-track rail and of the main-track rail, and the wide butt-end of this rail portion is formed with a lip, G, at the outer edge, against which the end of the switch-rail H of the main track may bear with its outer side, the said lip serving as a stop for the same. This switch-rail of the main-track rail is pivoted at its end and slides upon a suitable support upon the tie or sleeper I of the switch, and may abut, when drawn off from the frog, against a stop, J, upon the sleeper of the switch. The other switch-rail, K, is pivoted at one end in the line of the opposite rail of the main track, and its free end, which points in the oppsite direction from the rail B, bears against the stop L when it is in line with the main line of the track. Both switch-rails have the inner ends of the switch-rods N and M secured to them, and the outer ends of these switch-rods are pivoted to the ends of a lever, O, pivoted at its middle upon the outer end of the switch-sleeper and provided with a suitable handle, P. The inner side of the switch-rail is provided with a pointed rail portion, Q, secured at a distance from the side and registering with its wide end with the inner rail of the siding when the switch-rail registers with the main-track rail, and the wide end of this pointed rail portion is beveled at its inner side, as shown at R, and bears against a beveled or oblique stop, S, secured upon the sleeper of the switch when the switch-rail is slid to register with the rail of the siding.

It will be seen that when the switch is set so as to leave the main track open the pointed rail upon the lower switch-rail will allow a train coming from the siding to travel onto the single track without any danger of derailment, which was not possible in our former switch, and if the switch is set so as to leave the siding open the flange of the wheels of a train coming down the main line will bear against the inner side of the upper switch-rail, throwing it and the lower rail to register with the main-track rails. The lip at the wide end of the rigid frog-rail and the stops upon the sleeper will prevent the switch-rails

from being thrown too far, stopping them exactly at the point where they register with the ends of the rigid rails.

Having thus described our invention, we claim and desire to secure by Letters Patent of the United States—

1. In combination with the rails of a railway-switch, having portions of the main-track rails at opposite sides of the track pivoted at opposite ends, sliding with their ends upon the same sleeper, and having rods pivoted to the ends of one switch-lever, a pointed rail portion secured to the inner side of the lower switch-rail, registering with its wide end with the end of the inner rail of the siding, as and for the purpose shown and set forth.

2. The combination, in a railway-switch, of the outer rail of the siding having at its inner side a pointed rail portion forming a continuation of the main track with its inner edge, and having a lip projecting at the outer side of the wide end, with an upper switch-rail bearing with the outer side of its end against the said lip, as and for the purpose shown and set forth.

3. The combination of the rails of the siding, having the inner side of the outer rail provided with a frog portion, having a lip at the wide end, the rails of the main track, the switch-rails at opposite sides of the track and pivoted at opposite ends, and having the rods pivoted to a common lever, and provided at the inner side of the lower switch-rail with a pointed rail portion registering with the inner rail of the siding, and having the inner side of its wide end beveled, and the stops upon the sleepers for the ends of the switch-rails to bear against, as and for the purpose shown and set forth.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

BENJAMIN FRANKLIN PURVIANCE.
CHRISTIAN HILLS.

Witnesses:
JAS. M. ALLEN,
JNO. H. LENNON.